DriveLogix5720 Controller (12.20)

Catalog Number 5720

When to Use These Release Notes

These release notes should be used with DriveLogix5720 Controller firmware major revision 12, minor revision 20. Use this firmware with:

Update this:	To this revision or later:
RSLinx® software	2.41
RSLogix™ 5000 software	12.01
RSNetWorx™ for ControlNet™ software	4.11
RSNetWorx for DeviceNet™ software	4.12

What Is In These Release Notes

These release notes provide the following information:

For information about:	See this section:	On this page:
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Determining Firmware Revision Level

To determine the firmware revision level for a DriveLogix controller, use RSNetWorx or RSLinx software to view the properties of the node occupied by the controller.

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Before You Update Your System

Before you update your controller or RSLogix 5000 software to this revision, do the following preliminary actions:

If:	Then:
Your controller is connected to a DH-485 network.	Disconnect it from the DH-485 network *before* you update the firmware of the controller. If you update the firmware of a controller while it is connected to a DH-485 network, communication on the network may stop.
Your controller is close to its limits of memory.	This revision *may* require more memory than previous revisions. Before you upgrade to this revision, do the following: 1. Check the amount of unused memory that you have in the controller. To determine your unused memory, see either of the following documents: • Knowledgebase document G19984. To access Rockwell Automation's Knowledgebase, go to www.ab.com. Select *Support*. • *Logix5000 Controllers Common Procedures*, publication 1756-PM001E or later 2. If your controller is close to its limits of memory, see "Additional Memory Requirements" on page 5 to determine how much additional memory you require. 3. For additional information on how the controller organizes its memory, see Knowledgebase document G19984.

Corrected Anomalies

The corrected anomalies are listed in the table below.

Corrected anomaly:	Corrected in	Description:
Rack Optimized Input May Be Momentarily Invalid in a High Priority Task or Trend	DriveLogix FW 12.20	Previously, the controller may have momentarily referenced invalid Rack Optimized input data for I/O modules on the local or local2 rails under the following conditions: • The controller referenced data from at least two, adjacent, local input modules (including combination modules) that were mapped as Rack Optimized. • The module which has an input module to the left of it may exhibit the anomaly. In other words, an input module in slot 0 did not exhibit the anomaly. • A higher priority task than the I/O Update Task (priority 7) referenced the data. This included user tasks with priority of 1-6 and any trends; trends have a priority higher than 1. **IMPORTANT**: Instructions within a periodic task with priority of 7-15 (default periodic task priority is 10) or the continuous task did not exhibit this anomaly. For example, a controller referenced data from input modules in Slot 0 and Slot 1. Both modules were Rack Optimized. A trend on inputs from Slot 1 may have exhibited the anomaly. A task with a priority of 1 may have exhibited the anomaly with inputs from Slot 1. A task with a priority of 10 did not exhibit the anomaly. Lgx00045531
After power cycle the jog command the following error occurs: 16#0004 Servo Loop Not Closed	DriveLogix FW 12.20	Previously, the PowerFlex 700S connections go into the running state after a power cycle (Servo On and Servo Off function properly). But the following error would occur when the drive responded to a Jog command: 16#0004 Servo Loop Not Closed. Lgx00045945

Restrictions

This firmware version has these restrictions:

Restriction:	Description:
Forcing is not supported between the PowerFlex 700S and DriveLogix	The forcing values can be set for the controller inputs and outputs. However, these values will not be used by the Logix program nor will they be transmitted to the PowerFlex 700S.
Minimum RPI for local Flex I/O	The minimum recommended Requested Packet Interval (RPI) setting for the local Flex I/O rail is 30 ms.
Unsupported Motion Commands	This revision does not support the following Logix Motion Instructions: **Motion State** • MDO (Motion Direct Drive On) • MDF (Motion Direct Drive Off) **Motion Configuration** • MAAT (Motion Apply Axis Tuning) • MRAT (Motion Run Axis Tuning) • MAHD (Motion Apply Hookup Diagnostics) • MRHD (Motion Run Hookup Diagnostics)
Difficulty Flash Updating a DriveLogix Controller with Memory Expansion to 12.20 through EtherNet	When using EtherNet to flash update a DriveLogix controller to 12.20, the memory expansion option must be temporarily removed during the flash upgrade.

Additional Memory Requirements

Revision 12.x *may* require more memory than previous revisions (e.g., 10.x, 11.x). To estimate the additional memory that your project *may* require, use the following table:

Table 1 Additional memory requirements when you convert a project to revision 12 (Sheet 1 of 2)

If you have this firmware revision (add *all* that apply):	Then add the following memory requirements to your project:			Which comes from this type of memory:(1)	
	Component		Increase per instance	I/O (base)	Data and Logic (expansion)
11.x or earlier	tag that uses the MOTION_INSTRUCTION data type		4 bytes		Yes
	tag for an axis				
	If the data type is:	And the tag is:			
	AXIS_CONSUMED	⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒	264 bytes	Yes	
	AXIS_SERVO	produced for another controller	264 bytes	Yes	
		not produced for another controller	264 bytes		Yes
	AXIS_SERVO_DRIVE	produced for another controller	288 bytes	Yes	
		not produced for another controller	288 bytes		Yes
	AXIS_VIRTUAL	produced for another controller	264 bytes	Yes	
		not produced for another controller	264 bytes		Yes
	output cam execution targets		648 bytes		Yes
	user-defined data type: • number of user-defined data types in the controller organizer ⇒Data Types folder ⇒User-Defined folder • *not* the use of that data type in tags		128 bytes		Yes
	indirect address (using a tag as the subscript for an array in an instruction, e.g., Array_A[Tag_B]). This memory change applies *only* if the array: • uses a user-defined data type • has only one dimension (e.g., UDT_1[5])		(-60 bytes)		
10.x or earlier	project for a DriveLogix controller		1200 bytes	Yes	
	programs		12 bytes		Yes
	routines		16 bytes		Yes
9.x or earlier	tag that uses the MESSAGE data type		376 bytes		Yes
8.x or 9.x	produced or consumed axis		(-21.6K bytes)	Yes	
	axis that *is not* produced or consumed		(-21.6K bytes)		Yes
8.x or earlier	output cam execution targets		5,404 bytes		Yes
	motion group		32 bytes		Yes

Table 1 Additional memory requirements when you convert a project to revision 12 (Sheet 2 of 2)

If you have this firmware revision (add *all* that apply):	Then add the following memory requirements to your project:				Which comes from this type of memory:(1)	
	Component			Increase per instance	I/O (base)	Data and Logic (expansion)
7.x or earlier	project for a DriveLogix controller			1050 bytes	Yes	
	tags			0.55 bytes		Yes
	messages that: • transfer more than 500 bytes of data *and* • target a controller in the same chassis This memory is allocated only when the MSG instruction is enabled. To estimate, count the number of these messages that are enabled and/or cached at one time.			2000 bytes	Yes	
6.x or earlier	base tags			24 bytes		Yes
	alias tags			16 bytes		Yes
	produced and consumed tags	Data type	Bytes per tag			
		DINT	4	12 bytes	Yes	
		REAL	4	12 bytes	Yes	
				3 x bytes per tag	Yes	
				3 x bytes per tag	Yes	
6.x	routines			68 bytes		Yes
5.x or earlier	routines			116 bytes		Yes

(1) In the DriveLogix controller, the I/O and expansion memory types are merged into a single memory pool.

IMPORTANT An internal change on DriveLogix controllers resulted in less available memory with major revision 7 as compared to major revision 6.

- The 1794-L33 controller has 34k bytes less memory available.
- The 1794-L34 controller has 96k bytes less memory available.

Subsequent upgrades to new major revisions maintain this internal change.

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Rockwell Automation Support

Before you contact Rockwell Automation for technical assistance, we suggest you please review the troubleshooting information contained in the supporting product publications first (e.g. publications 20D-UM002, *User Manual - DriveLogix System*, and 1756-PM001, *Logix5000 Controllers Common Procedures Programming Manual*).

If the problem persists, call your local distributor or contact Rockwell Automation in one of the following ways:

Phone	United States/Canada	1.262.512.8176 (7 AM - 6 PM CST) 1.440.646.5800 (24 hour support)
	Outside United States/Canada	You can access the phone number for your country via the Internet: Go to http://www.ab.com Click on *Support* (http://support.rockwellautomation.com/) Under *Contact Customer Support,* click on *Phone Support*
Internet	⇒	Go to http://www.ab.com/support/abdrives/
E-mail	⇒	support@drives.ra.rockwell.com

Be prepared to furnish the following information when you contact support:

- Product Catalog Number
- Product Serial Number
- Firmware Revision Level

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
Europe/Middle East/Africa: Rockwell Automation, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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